

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1 Claim 1 (currently amended): An isolated nucleic acid encoding an
2 Sitosterolemia Susceptibility Gene (SSG) polypeptide, said polypeptide comprising an amino
3 acid sequence that is at least about 70% identical to an amino acid sequence as set forth in SEQ
4 ID NO:1 ~~or 3~~, wherein said amino acid sequence comprises a sequence selected from the group
5 consisting of SEQ ID NO:5 and SEQ ID NO:6.

1 Claim 2 (currently amended): The nucleic acid of claim 1, wherein said
2 polypeptide specifically binds to polyclonal antibodies generated against a polypeptide that
3 comprises an amino acid sequence selected from the group consisting of ~~SEQ ID NO:1~~, SEQ ID
4 NO:3, SEQ ID NO:5 and SEQ ID NO:6.

1 Claim 3 (currently amended): The nucleic acid of claim 1, wherein said
2 polypeptide comprises an amino acid sequence selected from the group consisting of ~~SEQ ID~~
3 ~~NO:1~~, SEQ ID NO:3, SEQ ID NO:5 and SEQ ID NO:6.

1 Claim 4 (original): The nucleic acid of claim 1, wherein said polypeptide forms a
2 dimer with a second ABC polypeptide, and wherein said dimer exhibits sterol transport activity.

1 Claim 5 (original): The nucleic acid of claim 4, wherein said dimer is a
2 heterodimer.

1 Claim 6 (original): The nucleic acid of claim 4, wherein said sterol is
2 cholesterol.

1 Claim 7 (currently amended): The nucleic acid of claim 5, wherein said second
2 ABC polypeptide is ATP-Binding Cassette 8 (ABC8).

1 Claim 8 (currently amended): The nucleic acid of claim 1, wherein said nucleic
2 acid hybridizes under moderately stringent hybridization conditions comprising 40% formamide,
3 1M NaCl, 1% SDS at 37°C and wash conditions of 1x SSC at 45°C to a nucleic acid comprising
4 a nucleotide sequence as set forth in SEQ ID NO:2-~~or~~ 4.

1 Claim 9 (currently amended): The nucleic acid of claim 8, wherein said nucleic
2 acid hybridizes under stringent hybridization conditions comprising 50% formamide, 5x SSC,
3 1% SDS at 65°C and wash conditions of 0.2x SSC, 0.1% SDS at 65°C to a nucleic acid
4 comprising a nucleotide sequence as set forth in SEQ ID NO:2-~~or~~ 4.

1 Claim 10 (currently amended): The nucleic acid of claim 1, wherein said nucleic
2 acid comprises a nucleotide sequence at least about 70% identical to a sequence as set forth in
3 SEQ ID NO:2-~~or~~ 4.

1 Claim 11 (currently amended): The nucleic acid of claim 1, wherein said nucleic
2 acid comprises a nucleotide sequence as set forth in SEQ ID NO:2-~~or~~ 4.

1 Claim 12 (original): The nucleic acid of claim 1, wherein said nucleic acid is
2 greater than 502 nucleotides in length.

1 Claim 13 (original): The nucleic acid of claim 1, wherein said nucleic acid is
2 from a mouse or a human.

1 Claim 14 (original): The nucleic acid of claim 1, wherein said nucleic acid is
2 expressed in the intestine or in the liver in the presence of an LXR agonist.

1 Claim 15 (original): The nucleic acid of claim 1, wherein said nucleic acid is
2 expressed in a tissue selected from the group consisting of liver, jejunum, ileum, and duodenum.

1 Claim 16 (original): An isolated nucleic acid encoding an SSG polypeptide, said
2 polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID
3 NO:5 and SEQ ID NO:6.

1 Claim 17 (original): An expression cassette comprising the nucleic acid of claim
2 1 operably linked to a promoter.

1 Claim 18 (original): An isolated cell comprising the expression cassette of
2 claim 17.

1 Claim 19 (withdrawn): An isolated SSG polypeptide, said polypeptide
2 comprising an amino acid sequence that is at least about 70% identical to an amino acid
3 sequence as set forth in SEQ ID NO:1 or 3.

1 Claim 20 (withdrawn): The isolated polypeptide of claim 19, wherein said
2 polypeptide selectively binds to polyclonal antibodies generated against a polypeptide
3 comprising an amino acid sequence as set forth in SEQ ID NO:1 or 3.

1 Claim 21 (withdrawn): The isolated polypeptide of claim 19, wherein said
2 polypeptide comprises an amino acid sequence as set forth in SEQ ID NO:1 or 3.

1 Claim 22 (withdrawn): The isolated polypeptide of claim 19, wherein said
2 polypeptide forms a dimer with a second ABC polypeptide, and wherein said dimer exhibits
3 sterol transport activity.

1 Claim 23 (withdrawn): The isolated polypeptide of claim 22, wherein said dimer
2 is a heterodimer.

1 Claim 24 (withdrawn): The isolated polypeptide of claim 23, wherein said
2 second ABC polypeptide is ABC8.

1 Claim 25 (withdrawn): The isolated polypeptide of claim 22, wherein said sterol
2 is cholesterol.

1 Claim 26 (withdrawn): The isolated polypeptide of claim 19, wherein said
2 polypeptide is expressed in the intestine or in the liver in the presence of an LXR agonist.

1 Claim 27 (withdrawn): The isolated polypeptide of claim 19, wherein said
2 polypeptide is expressed in a tissue selected from the group consisting of the liver, jejunum,
3 ileum, and duodenum.

1 Claim 28 (withdrawn): The isolated polypeptide of claim 29, wherein said
2 polypeptide is from a mouse or a human.

1 Claim 29 (withdrawn): An antibody generated against the isolated polypeptide of
2 claim 19.

1 Claim 30 (withdrawn): An isolated SSG polypeptide, said polypeptide
2 comprising an amino acid sequence selected from the group consisting of SEQ ID NO:5 and
3 SEQ ID NO:6.

1 Claim 31. (original) A method of making an SSG polypeptide, the method
2 comprising:
3 (i) introducing a nucleic acid of claim 1 into a host cell or cellular extract; and
4 (ii) incubating said host cell or cellular extract under conditions such that said
5 SSG polypeptide is expressed in the host cell or cellular extract.

1 Claim 32. (original) The method of claim 31, further comprising recovering the
2 SSG polypeptide from the host cell or cellular extract.

1 Claim 33 (withdrawn): A method of identifying a compound useful in the
2 treatment or prevention of a sterol-related disorder, said method comprising contacting an SSG

3 polypeptide with a test agent, and determining the functional effect of said test agent upon said
4 polypeptide, wherein a functional effect exerted on said polypeptide by said test agent indicates
5 that said test agent is a compound useful in the treatment or prevention of said sterol-related
6 disorder.

1 Claim 34 (withdrawn): The method of claim 33, wherein said sterol is
2 cholesterol.

1 Claim 35 (withdrawn): The method of claim 33, wherein said polypeptide
2 comprises an amino acid sequence that is at least about 70% identical to an amino acid sequence
3 as set forth in SEQ ID NO:1 or 3.

1 Claim 36 (withdrawn): The method of claim 33, wherein said polypeptide is
2 present in a cell or cell membrane.

1 Claim 37 (withdrawn): The method of claim 33, wherein said polypeptide is
2 bound to a heterologous ABC polypeptide, forming a heterodimer.

1 Claim 38 (withdrawn): The method of claim 33, wherein said functional effect
2 comprises an increase in the sterol transport activity of said polypeptide.

1 Claim 39 (withdrawn): The method of claim 33, wherein said functional effect
2 comprises a physical interaction between said test agent and said polypeptide.

1 Claim 40 (withdrawn): The method of claim 39, wherein said physical
2 interaction is detected using a direct binding assay.

1 Claim 41 (withdrawn): The method of claim 33, wherein said sterol-related
2 disorder is sitosterolemia.

1 Claim 42 (withdrawn): The method of claim 33, wherein said sterol-related
2 disorder is selected from the group consisting of hypercholesterolemia, hyperlipidemia, gall
3 stones, HDL deficiency, atherosclerosis, and nutritional deficiencies.

1 Claim 43 (withdrawn): A method of identifying a compound useful in the
2 treatment or prevention of a sterol-related disorder, said method comprising contacting with a
3 test agent a cell that expresses or is capable of expressing an SSG polypeptide, and determining
4 the functional effect of said test agent upon said cell;
5 wherein a functional effect exerted on said cell by said test agent indicates that
6 said test agent is a compound useful in the treatment or prevention of said sterol-related disorder.

1 Claim 44 (withdrawn): The method of claim 43, wherein said sterol is
2 cholesterol.

1 Claim 45 (withdrawn): The method of claim 43, wherein said SSG polypeptide
2 comprises an amino acid sequence that is at least about 70% identical to an amino acid sequence
3 as set forth in SEQ ID NO:1 or 3.

1 Claim 46 (withdrawn): The method of claim 43, wherein said compound
2 produces an increase in the expression of an SSG gene that encodes said SSG polypeptide.

1 Claim 47 (withdrawn): The method of claim 46, wherein said increase in the
2 expression of said SSG gene is detected by detecting the level of SSG mRNA in said cell.

1 Claim 48 (withdrawn): The method of claim 46, wherein said increase in the
2 expression of said SSG gene is detected by detecting the level of SSG polypeptide in said cell.

1 Claim 49. (withdrawn): The method of claim 46, wherein said increase in the
2 expression of said SSG gene is detected by detecting the level of SSG protein activity in said
3 cell.

1 Claim 50 (withdrawn): The method of claim 43, wherein said compound
2 modulates the level of sterol transport activity in said cell.

1 Claim 51 (withdrawn): The method of claim 50, wherein said sterol transport
2 activity in said cell is detected by detecting the rate of sterol efflux in said cell.

1 Claim 52 (withdrawn): The method of claim 51, wherein said sterol is
2 cholesterol.

1 Claim 53 (withdrawn): The method of claim 46, wherein said increase in the
2 expression of said SSG gene is mediated by LXR or RXR.

1 Claim 54 (withdrawn): The method of claim 43, wherein said sterol-related
2 disorder is sitosterolemia.

1 Claim 55 (withdrawn): The method of claim 43, wherein said sterol-related
2 disorder is selected from the group consisting of hypercholesterolemia, hyperlipidemia, gall
3 stones, HDL deficiency, atherosclerosis, and nutritional deficiencies.

1 Claim 56 (withdrawn): A method of treating or preventing a sterol-related
2 disorder in a mammal, said method comprising administering to said mammal a compound that
3 increases the level of expression or activity of an SSG polypeptide in a plurality of cells of said
4 mammal.

1 Claim 57 (withdrawn): The method of claim 56, wherein said sterol is
2 cholesterol.

1 Claim 58 (withdrawn): The method of claim 56, wherein said sterol-related
2 disorder is sitosterolemia.

1 Claim 59 (withdrawn): The method of claim 56, wherein said sterol-related
2 disorder is selected from the group consisting of hypercholesterolemia, hyperlipidemia, gall
3 stones, HDL deficiency, atherosclerosis, and nutritional deficiencies.

1 Claim 60 (withdrawn): The method of claim 56, wherein said compound
2 produces a decrease in the amount of dietary sterol that is absorbed in said mammal.

1 Claim 61 (withdrawn): The method of claim 56, wherein said compound
2 produces a decrease in the amount of sterol that is retained in the liver of said mammal.

1 Claim 62 (withdrawn): The method of claim 56, wherein said compound is
2 identified using the method of claim 33 or 43.

1 Claim 63 (withdrawn): The method of claim 56, wherein said compound causes
2 an increase in LXR or RXR activity within cells of said mammal.

1 Claim 64 (withdrawn): A method of prescreening to identify a candidate
2 therapeutic agent that modulates SSG activity in a mammal, the method comprising:
3 providing a cell which comprises an SSG polypeptide; and
4 a test compound; and
5 determining whether the amount of sterol transport activity in said cell is
6 increased or decreased in the presence of the test compound relative to the activity in the absence
7 of the test compound;

8 wherein a test compound that causes an increase or decrease in the amount of
9 sterol transport activity is a candidate therapeutic agent for modulation of SSG activity in a
10 mammal.

1 Claim 65 (withdrawn): The method of claim 64, further comprising a secondary
2 step, wherein said test compound is administered to a mammal, and the absorption of dietary
3 sterol in said mammal is detected.

1 Claim 66 (withdrawn): A method of inducing the expression of an ABC gene in
2 a mammalian cell, said method comprising increasing the level of LXR or RXR activity in said
3 cell.

1 Claim 67 (withdrawn): The method of claim 66, wherein said ABC gene
2 encodes a protein that is involved in the transport of a sterol.

1 Claim 68 (withdrawn): The method of claim 67, wherein said ABC gene is
2 selected from the group consisting of SSG, ABC1 and ABC8.

1 Claim 69 (withdrawn): The method of claim 67, wherein said sterol is
2 cholesterol.

1 Claim 70 (withdrawn): The method of claim 66, wherein said LXR or RXR
2 activity is increased by administering an LXR or RXR agonist to said cell.

1 Claim 71 (withdrawn): The method of claim 66, wherein said cell is present in a
2 mammal.

1 Claim 72 (withdrawn): The method of claim 66, wherein said cell is a liver,
2 intestinal, or kidney cell.

1 Claim 73 (withdrawn): An isolated nucleic acid comprising at least one
2 nucleotide sequence selected from the group consisting of exon 1 (SEQ ID NO:7), exon 2 (SEQ
3 ID NO:8), exon 3 (SEQ ID NO:9), exon 4 (SEQ ID NO:10), exon 5 (SEQ ID NO:11), exon 6
4 (SEQ ID NO:12), exon 7 (SEQ ID NO:13), exon 8 (SEQ ID NO:14), exon 9 (SEQ ID NO:15),
5 exon 10 (SEQ ID NO:16), exon 11 (SEQ ID NO:17), exon 12 (SEQ ID NO:18) and exon 13
6 (SEQ ID NO:19).

1 Claim 74 (withdrawn): The isolated nucleic acid sequence of claim 73, further
2 comprising at least one intron.

1 Claim 75 (new): The nucleic acid of claim 1, wherein said amino acid sequence
2 is at least about 80% identical to said amino acid sequence set forth in SEQ ID NO:3.

1 Claim 76 (new): The nucleic acid of claim 1, wherein said amino acid sequence
2 is at least about 90% identical to said amino acid sequence set forth in SEQ ID NO:3.

1 Claim 77 (new): The nucleic acid of claim 1, wherein said amino acid sequence
2 is at least about 95% identical to said amino acid sequence set forth in SEQ ID NO:3.